

"ELECTRICAL ACTUATOR FOR SWING AND SIMILAR GATES"

CLAIMS

1. An electrical actuator for swing gates with a command and release
5 device, comprising, inside a casing or protection housing (11), a non-reversible
electrical gear motor (12) actuating via a transmission joint (13) the rotation of a
non-reversible worm screw (14) that engages a nut screw (15), and where the
nut screw has an axially translating cylinder or rod (16) connected thereto,
which in turn is fixed to the swing gate to be commanded through a drive pin
10 (18) located on a distal end of said cylinder or rod, characterised in that said
transmission joint comprised of a coupling with frontal teeth (20, 21) inserted
between an output shaft (121) of the gear motor (12) and the worm screw (14)
and in that a release element (24) is associated in a radial manner to the said
coupling for a manual disengagement of the device in the case of emergency.
- 15 2. The actuator according to claim 1, in which the said transmission joint
(13) is comprised of a drive element (20) keyed onto and sliding directly or
indirectly on the output shaft (12') of the gear motor (12) and a drive element
(21) fixed to a proximal end of the worm screw (14), and where the drive and
driven elements (20, 21) both have frontal teeth (22) for reciprocal engagement
20 when they are close and for disengagement when moved apart.
3. The actuator according to claims 1 and 2, in which a thrust spring (23) is
associated to the drive element (20) to keep the two elements (20, 21) of the
coupling in the engaged condition, and in which the release element (24) is
coupled to the said drive element to move it away from the driven element and

to disengage the coupling.

4. The actuator according to claim 3, in which the release element is comprised by an eccentric pin (24) associated with an annular groove (25) on the periphery of the drive element, said eccentric pin being rotatable from a
5 engagement position to a release position of the coupling through the rotation of a lock barrel (26) by a respective key, that can be of the lobe, security type or similar.

5. An electrical actuator for swing gates comprising, inside a casing or protection element (11), a non-reversible electrical gear motor (12) actuating via
10 a transmission joint (13) the rotation of a non-reversible worm screw (14), that engages a nut screw (15) to which an axially translating cylinder or rod is connected (16) which in turn is fixed to the swing gate to be commanded through a drive pin (18) located on a distal end of said rod, wherein the transmission joint comprises a coupling with frontal teeth (20, 21) inserted
15 between an output shaft (12') of the gear motor and the worm screw (14), and a release element (24) associated in a radial manner to the said coupling for a manual disengagement of the device in the case of emergency,

- said this coupling being comprised of a drive element (20), keyed onto and sliding directly or indirectly on said output shaft (12') of the gear motor (12)
20 and a driven element (21) fixed to a proximal end of the worm screw (14) with the drive and driven elements (20, 21) both having frontal teeth (22) for reciprocal engagement when they are close under the action of a spring and for release from each other when they are moved away from the release element,

- said release element being comprised of an eccentric pin (24) that

engages an annular groove (25) in a radial way arranged around the drive element movable between an engagement position and a release position of the coupling through the rotation of a lock barrel (26) by a respective key that can be of the lobe, security type or similar.

5 6. The actuator according to claim 5 wherein:

- said casing or protection housing is provided with horizontal guides (122) in a horizontal direction, and

- said translating rod or cylinder is centred and slides at one part in a stationary entering collar (120) and in another part is provided with lateral guides (123),

10 that engage with the horizontal guides (122) inside the casing or protection housing to support the rod or the cylinder throughout its entire translation stroke.

7. The electrical actuator according to claim 6, wherein the said horizontal guide elements (122) are comprised of ribs integral to one part of the casing or

15 protective housing extending along the same in correspondence with said rod or cylinder.

8. The electrical actuator according to claims 6 and 7, wherein the said centring collar (120) is withheld axially in the casing or protective housing and wherein the said lateral guides (123) of the rod or cylinder (16) are on opposite sides to

20 a head located at the distal end of the rod or cylinder itself.